

Appl. No. 09/919,994
Amdt. dated January 23, 2006
Reply to Office Action of December 8, 2005

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

Claims 1-4, 7-12, 14-26, 28, 29, and 32 are pending in the application, with claims 5, 6, 13, 27, 30, and 31 having been canceled, claim 1 having been amended, and claims 14-26 and 28 having been withdrawn. It is requested that the amendments to claim 1 be entered as it is believed they put the application in condition for allowance or in better condition for appeal.

Claims 1-4, 7-12, 29, and 32 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement because, according to the Examiner, they contain subject matter which was not described in the specification in such a way as reasonably to convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

According to the Examiner:

Support has not been provided for the amendment to step (B) of claim 1. The meaning of the amended language does not correspond to the language present within cancelled claim 5 or page 10, lines 9 and 10 of the specification. A ratio of monomers is not equivalent to NCO:OH index ratio values, because the index values are based upon moles of NCO and OH groups, as opposed to moles of monomers.

Step (B) of claim 1 has been amended to read, "adding at least one polyol to a stoichiometric excess of the dissolved diphenylmethane diisocyanate monomer at an

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NCO:OH ratio in the range of from about 2:1 to 20:1,” which corresponds to the language employed in the specification and in former claim 5.

Accordingly, it is requested that the rejection of claims 1-4, 7-12, 29, and 32 under 35 U.S.C. 112, first paragraph, be withdrawn.

Claims 1-4, 7-12, and 29 have been rejected under 35 U.S.C. 102(b) as being anticipated by Rosenberg et al. (U.S. Patent No. 5,703,193).

Rosenberg et al. disclose a process for reducing the amount of residual organic diisocyanate monomer in a polyurethane prepolymer reaction product mixture which comprises distilling the polyurethane prepolymer reaction product mixture in the presence of a combination of *at least one inert first solvent with a boiling point below the boiling point of the residual organic diisocyanate monomer and at least one inert second solvent with a boiling point above the boiling point of the residual organic diisocyanate monomer*, at a temperature which exceeds the vaporization temperature of the residual organic diisocyanate monomer and which is below the decomposition temperature of the polyurethane prepolymer.

The Rosenberg process requires *at least two* inert solvents, one having a boiling point *above* the boiling point of the diisocyanate and the other having a boiling point *below* the boiling point of the diisocyanate. The claims of the present application were previously amended to require that the inert solvent or solvents employed in the practice of the present invention *all* have boiling points *below* the boiling point of the diisocyanate, i.e., the solvent or solvents are selected from the group consisting of solvents having a boiling point about

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1°C to about 100°C below the boiling point of the diphenylmethane diisocyanate monomer at a pressure of 10 torr.

Rosenberg et al. nowhere disclose or suggest any benefit to be derived from the use of anything other than a combination of high and low boiling solvents and, in fact, show in Comparative Example G the unsuccessful removal of free PPDI monomer with low-boiling solvent, thereby leading away from the present invention.

Notwithstanding the previous amendment, the Examiner has taken the position that:

. . . [A]pplicants' "comprising" language causes the claims to be open to the inclusion of additional components and processing steps, including the use of the argued additional solvent of the prior art. There is no language that precludes an additional dissolving step or step of adding additional solvents. Despite applicants' remarks, it is by no means clear that the claim language definitively excludes the argued additional solvent. Other than simply stating that the argued additional solvent is excluded, applicants have not addressed the examiner's concerns that the "open" language of the claims allows for the inclusion of the argued additional solvent.

In an effort to clarify still further that *all* the solvents employed in the process of the present invention have boiling points below that of the diisocyanate, the claims have now been amended by the addition of the language "wherein all solvent(s) employed in said process have a boiling point about 1°C to about 100°C below the boiling point of the diphenylmethane diisocyanate monomer at a pressure of 10 torr." It should now be entirely

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clear that although the “comprising” language referred to be the Examiner permits the claim to read on a process having steps additional to those listed, none of such steps can include the addition of solvents having boiling points higher than that of the diisocyanate.

Accordingly, it is requested that the rejection of Claims 1-4, 7-12, and 29 under 35 U.S.C. 102(b) as being anticipated by Rosenberg et al. be withdrawn.

Claims 32 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. in view of Rizk et al. (U.S. Patent No. 4,624,996) or Lander (U.S. Patent No. 4,101,473).

Rizk et al. disclose a heat curable one package polyurethane resin composition comprising an isocyanate terminated polyurethane prepolymer the isocyanate groups of which are blocked by reaction with an oxime, and a curing agent having at least two active hydrogen atoms per molecule, such as a polyol, a polyamine, or a blocked polyamine.

Lander discloses solid particle-form, polymerizable or cross-linkable, multi-functional polymeric material containing blocked isocyanate groups wherein the blocked isocyanate groups making up said polymeric material comprise only a portion of the total isocyanate groups to produce said polymeric material. The polymeric material may be manufactured by reacting a liquid reaction admixture comprising a partially blocked polyurethane prepolymer with a chain extending reactant under conditions such that the reaction admixture is reacted in dispersed form with the result that the reaction product is recoverable in solid particle-form.

According to the Examiner:

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Rosenberg et al. are silent regarding the addition of blocking agents to the prepolymers to yield blocked isocyanate group containing prepolymers; however, the blocking of diphenylmethane diisocyanate derived prepolymers with conventional blocking agents, such as those claimed, to yield storage stable prepolymers was known at the time of invention. This position is supported by the disclosures and examples of Rizk et al. and Lander.

As noted above, the Rosenberg et al. reference is deficient in that fails to disclose or suggest the use of inert solvent(s) during the prepolymerization step that *all* have boiling points *below* the boiling point of the diisocyanate. Neither Rizk et al. nor Lander supplement this deficiency. Neither reference makes any mention of the presence of any solvent whatsoever during a prepolymerization step. At most, these references merely show that blocking agents useful in the practice of the present invention are known in the art. This, of course, has been acknowledged by Applicants in the present specification. It is submitted, however, that the use of such blocking agents with prepolymers prepared by the currently claimed process was not known in the art.

Accordingly, it is requested that the rejection of claim 32 under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. in view of Rizk et al. or Lander be withdrawn.

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In view of the foregoing, it is submitted that this application is now in condition for allowance and an early Office Action to that end is earnestly solicited.

Respectfully submitted,

23 JAN 06
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